AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1-156 (cancelled)

157. (Withdrawn) A stabilized radiopharmaceutical composition comprising:

(a) a diagnostic or therapeutic radionuclide, optionally complexed to a chelator; and

(b) a stabilizer selected form the group consisting of: a stabilizer comprising a water-soluble organic compound containing selenium in the +2 oxidation state; a stabilizer comprising a composition comprising ascorbic acid or a pharmaceutically salt thereof, gentisic acid or a pharmaceutically salt thereof, human serum albumin, and benzyl alcohol; a stabilizer comprising a dithiocarbamate compound; and a stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state.

158. (Withdrawn) A stabilized radiopharmaceutical composition comprising:

(a) a metal chelator complexed with a radionuclide;

(b) an optional linking group and a targeting molecule; and

(c) a stabilizer selected from the group consisting of: a stabilizer comprising a water-soluble organic compound containing selenium in the +2 oxidation state; a stabilizer composition comprising ascorbic acid or a pharmaceutically salt thereof, gentisic acid or a pharmaceutically salt thereof, human serum albumin, and benzyl alcohol; a stabilizer comprising dithiocarbamate compound; and a stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state.

159. (Withdrawn) A stabilized radiopharmaceutical composition comprising:

(a) a compound of the general formula:

M-N-Q

wherein

M is a metal chelator complexed with a radionuclide;

N is an optional linker;

Q is a targeting molecule; and

(b) a stabilizer selected from the group consisting of: a stabilizer comprising a water-soluble organic compound containing selenium in the +2 oxidation state; a stabilizer composition comprising ascorbic acid or a pharmaceutically salt thereof, gentisic acid or a pharmaceutically salt thereof, human serum albumin, and benzyl alcohol; a stabilizer comprising a dithiocarbamate compound; and a stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state.

160. (Withdrawn) A stabilized radiopharmaceutical composition comprising:

(a) a compound of the general formula:

M-N-O-P-Q

wherein

M is a metal chelator complexed with a radionuclide;

N is 0, an alpha amino acid, a non-alpha amino acid with a cyclic group, or other linking group;

O is an alpha amino acid, or a non-alpha amino acid with a cyclic group;

P is 0, an alpha amino acid, a non-alpha amino acid with a cyclic group, or other linking group;

Q is a targeting molecule;

wherein at least one of N, O or P is a non-alpha amino acid with a cyclic group; and

(b) a stabilizer selected from the group consisting of: a stabilizer comprising a water-soluble organic compound containing selenium in the +2 oxidation state; a stabilizer composition comprising ascorbic acid or a pharmaceutically salt thereof, gentisic acid or a pharmaceutically salt thereof, human serum albumin, and benzyl alcohol; a stabilizer comprising dithiocarbamate compound; and a stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state.

161. (Withdrawn) A stabilized radiopharmaceutical composition comprising:

(a) a compound of the general formula:

M-N-O-P-Q

wherein

M is a metal chelator complexed with a radionuclide;

N is 0, an alpha amino acid, a substituted bile acid, or other linking group;

O is an alpha amino acid, or a substituted bile acid;

P is 0, an alpha amino acid, a substituted bile acid, or other linking group;

Q is a targeting molecule;

wherein at least one of N, O or P is a substituted bile acid; and

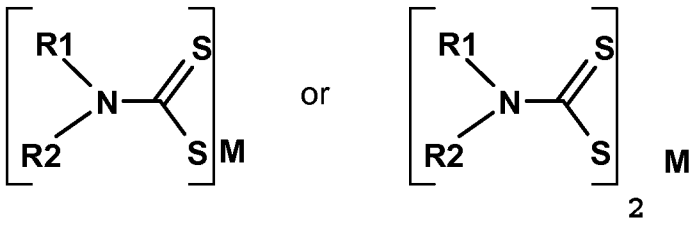
(b) a stabilizer selected from the group consisting of: a stabilizer comprising a water-soluble organic compound containing selenium in the +2 oxidation state; a stabilizer composition comprising ascorbic acid or a pharmaceutically salt thereof, gentisic acid or a pharmaceutically

salt thereof, human serum albumin, and benzyl alcohol; a stabilizer comprising a dithiocarbamate compound; and a stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state.

162. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 157 to 161 wherein the stabilizer composition comprising ascorbic acid or a pharmaceutically salt thereof, gentisic acid or a pharmaceutically salt thereof, human serum albumin, and benzyl alcohol, further comprises selenomethionine, selenocysteine, methionine, cysteine or derivatives thereof.

163. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 157 to 161, wherein the water-soluble compound containing selenium in the +2 oxidation state and is selected from the group consisting of selenomethionine, selenocysteine or derivatives thereof.

164. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 157 to 161, wherein the stabilizer comprising a dithiocarbamate compound comprises a compound of the formula:



wherein R1 and R2 are each independently H; C_1-C_8 alkyl; -OR3, wherein R3 is C_1-C_8 alkyl; or benzyl, either unsubstituted or optionally substituted with water solubilizing groups; or wherein R1, R2, and N combined together form 1-pyrrolidinyl-, piperidino-, morpholino-, 1-piperazinyl-; and

M is H^+, Na^+, K^+, NH_4^+, N-methylglucamine, or other pharmaceutically acceptable +1 ion, in the +1 oxidation state; or

M is Mg^{2+} or Ca^{2+}, or other physiologically acceptable +2 metal ion, in the +2 oxidation state.

165. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 157 to 161, wherein the stabilizer comprising a dithiocarbamate compound is selected from the group consisting of 1-pyrrolidine dithiocarbamic acid ammonium salt, sodium diethyldithiocarbamate trihydrate, sodium dimethyldithiocarbamate hydrate, and combinations thereof.

166. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claim 157 to 161, wherein the stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state comprises cysteine or a derivative thereof, mercaptoethanol, dithiolthreitol, or pharmaceutically acceptable salts thereof.

167. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 157 to 161, wherein the stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state comprises a cysteine derivative selected from the group consisting of cystamine dihydrochloride, cysteine hydrochloride monohydrate, cysteine ethyl ester hydrochloride, cysteine diethyl ester dihydrochloride, cysteine methyl ester hydrochloride, cysteine dimethyl ester dihydrochloride, cysteinesulfinic acid monohydrate, 5-thio-d-glucose, reduced l-glutathione, and combinations thereof.

168. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 158 to 161, wherein the linker or linking group is a peptide, a hydrocarbon linking group or a combination thereof.

169. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 157 to 161, wherein the metal chelator is selected from the group consisting of DTPA, DOTA, DO3A, HP-DO3A, PA-DOTA, MeO-DOTA, MX-DTPA, EDTA, TETA, EHPG, HBED, NOTA, DOTMA, TETMA, PDTA, TTHA, LICAM, MECAM, CMDOTA, PnAO, oxa-PnAO, N,N-dimethylGly-Ser-Cys; N,N-dimethylGly-Thr-Cys; N,N-diethylGly-Ser-Cys; N,N-dibenzylGly-Ser-Cys, N,N-dimethylGly-Ser-Cys-Gly; N,N-dimethylGly-Thr-Cys-Gly; N,N-diethylGly-Ser-Cys-Gly; and N,N-dibenzylGly-Ser-Cys-Gly.

170. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 158 to 161, wherein the targeting molecule is a targeting peptide.

171. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 158 to 161, wherein the targeting molecule is selected from the group consisting of LHRH, insulin, oxytocin, somatostatin, NK-1, VIP, Substance P, NPY, endothelin A, endothelin B, bradykinin, interleukin-1, EGF, CCK, galanin, MSH, Lanreotide, Octreotide, Maltose, arginine-vasopressin, a GRP receptor targeting molecule, and analogs and derivatives thereof.

172. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 158 to 161, wherein the targeting molecule is a GRP receptor targeting molecule, which is optionally an agonist or a peptide which confers agonist activity.

173. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 158 to 161, wherein the targeting molecule is a GRP receptor targeting molecule that is bombesin or an analog thereof.

174. (Withdrawn) A stabilized radiopharmaceutical composition according to any one of claims 157 to 161, wherein the radionuclide is selected from the group consisting of ^{99m}Tc, ^{51}Cr, ^{67}Ga, ^{68}Ga, ^{47}Sc, ^{167}Tm, ^{141}Ce, ^{123}I, ^{125}I, ^{131}I, ^{18}F, ^{11}C, ^{15}N, ^{111}In, ^{168}Yb, ^{175}Yb, ^{140}La, ^{90}Y, ^{88}Y, ^{86}Y, ^{153}Sm, ^{166}Ho, ^{165}Dy, ^{166}Dy, ^{62}Cu, ^{64}Cu, ^{67}Cu, ^{97}Ru, ^{103}Ru, ^{186}Re, ^{188}Re, ^{203}Pb, ^{211}Bi, ^{212}Bi, ^{213}Bi, ^{214}Bi, ^{225}Ac, ^{211}At, ^{105}Rh, ^{109}Pd, ^{117m}Sn, ^{149}Pm, ^{161}Tb, ^{177}Lu, ^{198}Au and ^{199}Au and oxides or nitrides thereof.

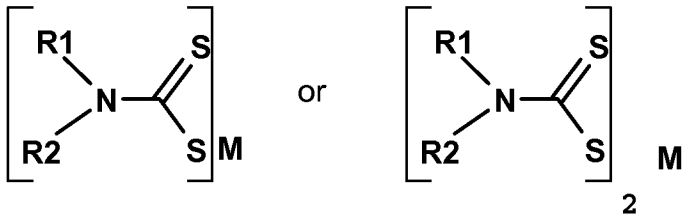
175. (Withdrawn) A method for stabilizing a radiopharmaceutical composition either comprising combining a radionuclide with a chelator, so as to form a radiolabelled complex, and combining the complex with a stabilizer; or comprising simultaneously reacting a radionuclide with a chelator and with a stabilizer;

wherein the stabilizer is selected from the group consisting of: a stabilizer comprising a water-soluble organic compound containing selenium in the +2 oxidation state; a stabilizer composition comprising ascorbic acid or a pharmaceutically salt thereof, gentisic acid or a pharmaceutically salt thereof, human serum albumin, and benzyl alcohol; a stabilizer comprising a dithiocarbamate compound; and a stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state.

176. (Withdrawn) A method according to claim 175, wherein the stabilizer comprising a water-soluble compound containing selenium in the +2 oxidation state comprises selenomethionine, selenocysteine, or derivatives thereof.

177. (Withdrawn) A method according to claim 175, wherein the stabilizer composition comprising ascorbic acid or a pharmaceutically salt thereof, gentisic acid or a pharmaceutically salt thereof, human serum albumin, and benzyl alcohol further comprises selenomethionine, selenocysteine, methionine, cysteine or derivatives thereof.

178. (Withdrawn) A method according to claim 175 wherein the stabilizer comprising a dithiocarbamate compound comprises a compound of the formula:



wherein R1 and R2 are each independently H; C_1-C_8 alkyl; -OR3, wherein R3 is C_1-C_8 alkyl; or benzyl, either unsubstituted or optionally substituted with water solubilizing groups; or wherein R1, R2, and N combined together form 1-pyrrolidinyl-, piperidino-, morpholino-, 1-piperazinyl-; and

M is H^+, Na^+, K^+, NH_4^+, N-methylglucamine, or other pharmaceutically acceptable +1 ion, in the +1 oxidation state; or

M is Mg^{2+} or Ca^{2+}, or other physiologically acceptable +2 metal ion, in the +2 oxidation state.

179. (Withdrawn) A method according to claim 175, wherein the the dithiocarbamate compound is selected from the group consisting of 1-pyrrolidine dithiocarbamic acid ammonium salt, sodium diethyldithiocarbamate trihydrate, sodium dimethyldithiocarbamate hydrate, and combinations thereof.

180. (Withdrawn) A method according to claim 175 wherein the stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state comprises cysteine or a derivative thereof, mercaptoethanol, dithiolthreitol, or pharmaceutically acceptable salts thereof.

181. (Withdrawn) A method according to claim 180 wherein the stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state comprises a cysteine derivative selected from the group consisting of cystamine dihydrochloride, cysteine hydrochloride monohydrate, cysteine ethyl ester hydrochloride, cysteine diethyl ester

dihydrochloride, cysteine methyl ester hydrochloride, cysteine dimethyl ester dihydrochloride, cysteinesulfinic acid monohydrate, 5-thio-d-glucose, reduced l-glutathione, and combinations thereof.

182. (Withdrawn) A kit for the preparation of a stabilized radiopharmaceutical composition comprising:

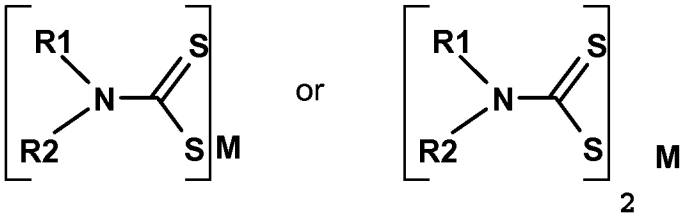
(a) a first reagent which comprises a diagnostic or therapeutic radionuclide, optionally complexed to a chelator; and

(b) a second reagent which comprises a stabilizer selected from the group consisting of: a stabilizer comprising a water-soluble organic compound containing selenium in the +2 oxidation state; a stabilizer composition comprising ascorbic acid or a pharmaceutically salt thereof, gentisic acid or a pharmaceutically salt thereof, human serum albumin, and benzyl alcohol; a stabilizer comprising a dithiocarbamate compound; and a stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state.

183. (Withdrawn) A kit according to claim 182 wherein the water-soluble compound containing selenium in the +2 oxidation state comprises selenomethionine, selenocysteine, or derivatives thereof.

184. (Withdrawn) A kit according to claim 182 wherein the stabilizer composition comprising ascorbic acid or a pharmaceutically salt thereof, gentisic acid or a pharmaceutically salt thereof, human serum albumin, and benzyl alcohol; further comprises selenomethionine, selenocysteine, methionine, cysteine or derivatives thereof.

185. (Withdrawn) A kit according to claim 182 wherein the stabilizer comprising a dithiocarbamate compound comprises a compound of the formula:



wherein R1 and R2 are each independently H; C_1-C_8 alkyl; -OR3, wherein R3 is C_1-C_8 alkyl; or benzyl, either unsubstituted or optionally substituted with water solubilizing groups; or wherein R1, R2, and N combined together form 1-pyrrolidinyl-, piperidino-, morpholino-, 1-piperazinyl-; and

M is H^+, Na^+, K^+, NH_4^+, N-methylglucamine, or other pharmaceutically acceptable +1 ion, in the +1 oxidation state; or

M is Mg^{2+} or Ca^{2+}, or other physiologically acceptable +2 metal ion, in the +2 oxidation state.

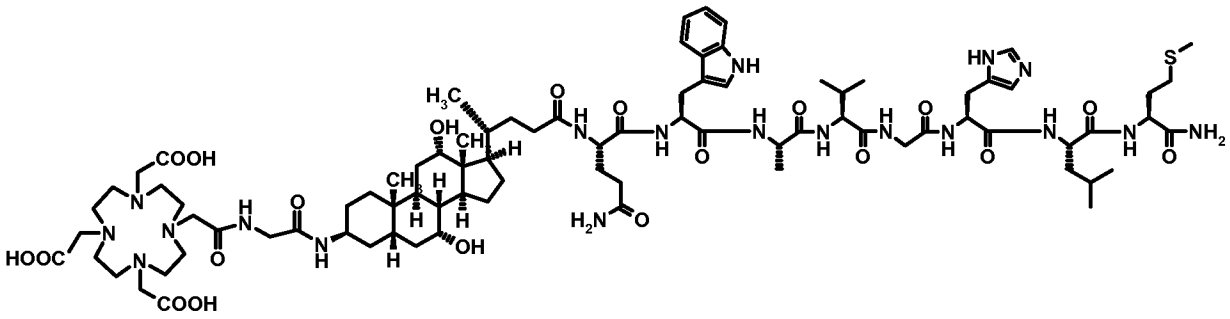
186. (Withdrawn) A kit according to claim 182, wherein the the dithiocarbamate compound is selected from the group consisting of 1-pyrrolidine dithiocarbamic acid ammonium salt, sodium diethyldithiocarbamate trihydrate, sodium dimethyldithiocarbamate hydrate, and combinations thereof.

187. (Withdrawn) A kit according to claim 182 wherein the stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state comprises cysteine or a derivative thereof, mercaptoethanol, dithiolthreitol, or pharmaceutically acceptable salts thereof.

188. (Withdrawn) A kit according to claim 187 wherein the stabilizer comprising a water soluble compound containing sulfur in the +2 oxidation state comprises a cysteine derivative selected from the group consisting of cystamine dihydrochloride, cysteine hydrochloride monohydrate, cysteine ethyl ester hydrochloride, cysteine diethyl ester dihydrochloride, cysteine methyl ester hydrochloride, cysteine dimethyl ester dihydrochloride, cysteinesulfinic acid monohydrate, 5-thio-d-glucose, reduced l-glutathione, and combinations thereof.

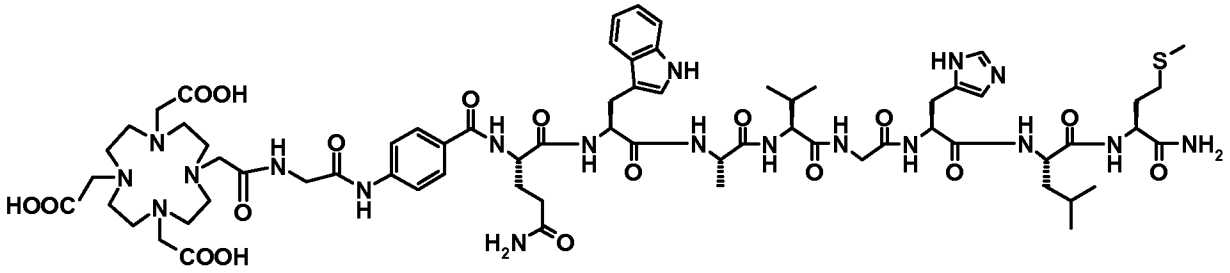
189. (Withdrawn) A stabilized radiopharmaceutical composition comprising a compound A or B of formula:

compound A



or

compound B

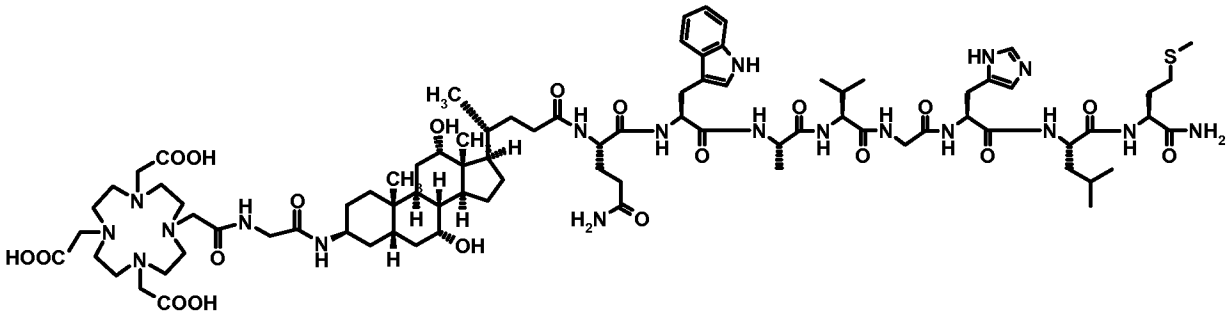


complexed with a radionuclide and a stabilizing composition comprising ascorbic acid, gentisic acid, human serum albumin, benzyl alcohol, and an amino acid selected from the group consisting of cysteine, methionine, or selenomethionine.

190. (Withdrawn) A kit for the preparation of a stabilized radiopharmaceutical composition comprising:

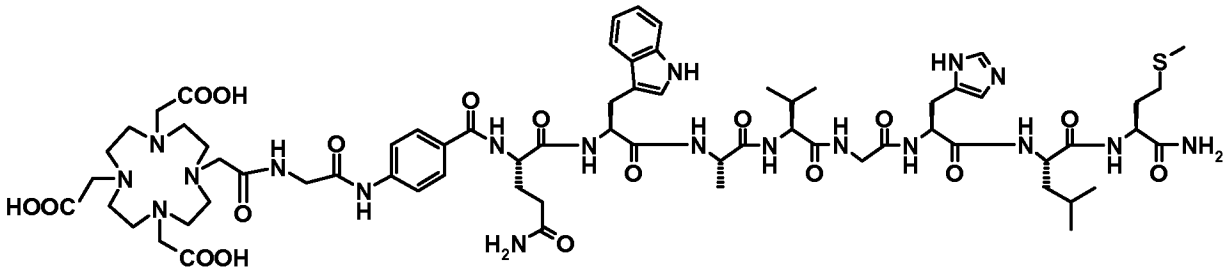
(a) a first reagent which comprises a compound of formula A or B,

compound A



or

compound B



and a water-soluble organic compound containing selenium in the +2 oxidation state; and

(b) a second reagent which comprises ascorbic acid or a pharmaceutically salt thereof, sodium chloride, EDTA, and benzyl alcohol.

191. (Withdrawn) A kit according to claim 190, wherein the first reagent further comprises a radionuclide and wherein the compound containing selenium in the +2 oxidation state is selenomethionine.

192. (Withdrawn) A kit according to claim 191, wherein the radionuclide is selected from the group consisting of ^{177}Lu, ^{111}In, ^{90}Y, ^{67}Ga and ^{68}Ga.

193. (Previously presented) A method of increasing recovery of radioactivity from a reaction that produces a radiopharmaceutical composition either comprising:

adding benzyl alcohol to a reaction mixture that produces the radiopharmaceutical composition;

or

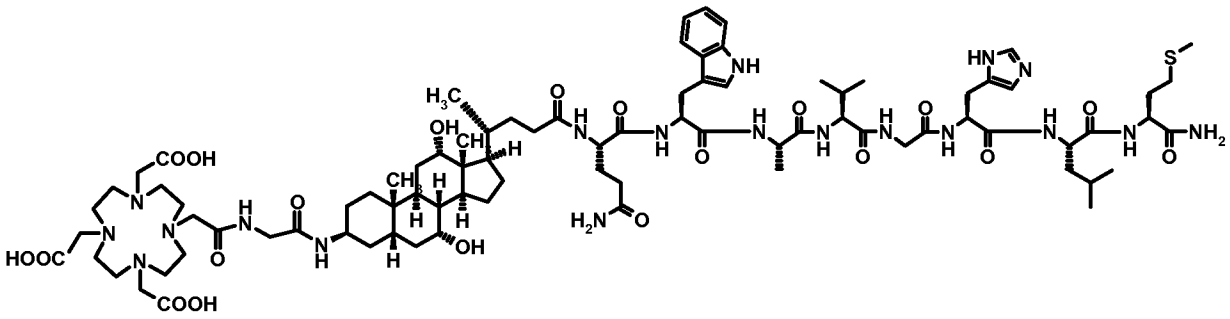
reacting a radionuclide with a chelator, to form a radiolabeled chelate, and reacting the radiolabeled chelate with a stabilizer solution comprising benzyl alcohol.

194. (Previously Presented) A method according to claim 193, wherein the stabilizer solution further comprises ascorbic acid or a pharmaceutically acceptable salt thereof or EDTA.

195. (Withdrawn) A method of reducing one or more oxidized methionine residues in a radiopharmaceutical composition comprising reacting the radiopharmaceutical composition with cysteine, dithiolthreitol or mercaptoethanol.

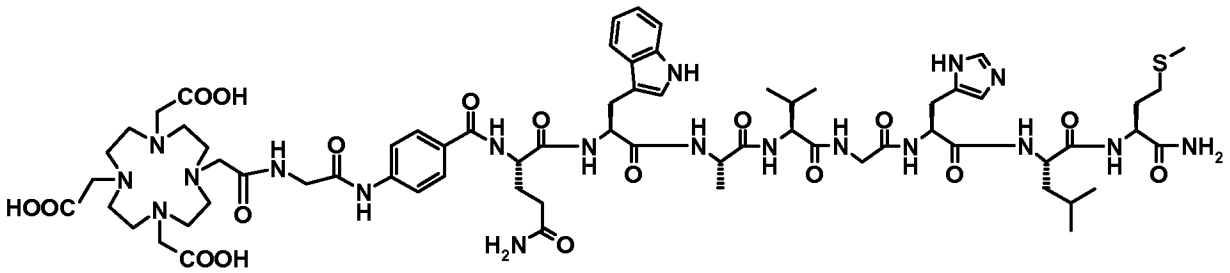
196. (Withdrawn) A method according to claim 195, wherein the radiopharmaceutical composition comprises a compound having the formula of compound A or of compound B

compound A



or

compound B

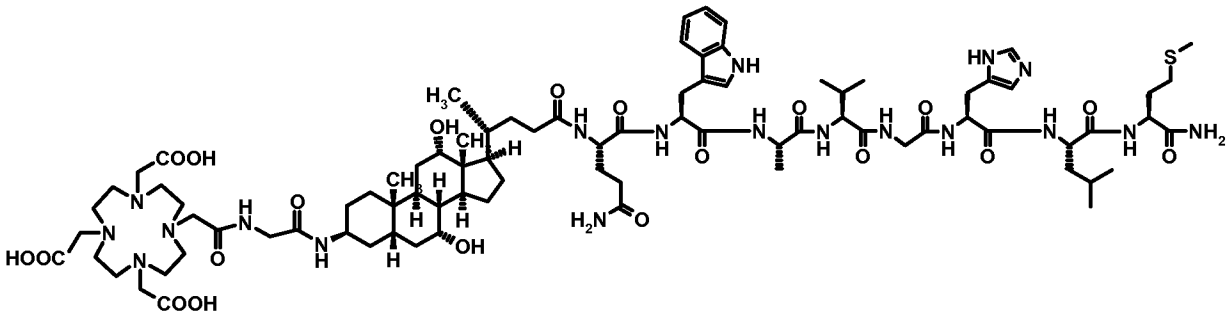


197. (Withdrawn) A method of reducing interference from metallic contaminants in a reaction mixture for the preparation of a radioparmaceutical comprising reacting the mixture with a dithiocarbamate.

198. (Withdrawn) A method of improving yield of a desired radiopharmaceutical, comprising adding a dithiocarbamate to the reaction mixture that produces the radiopharmaceutical.

199. (Withdrawn) A method according to any one of claims 197 or 198, wherein the dithiocarbamate is 1-pyrrolidine dithiocarbamic acid ammonium salt (PDTC).

200. (Withdrawn) A stabilized radiopharmaceutical composition comprising a compound of the formula:

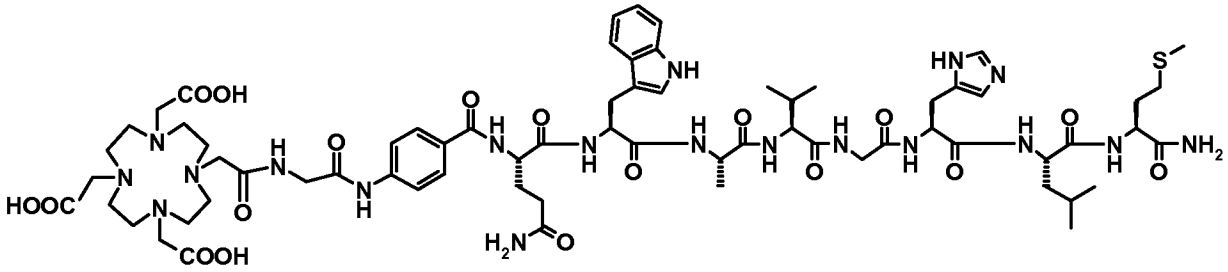


complexed with a radionuclide and a stabilizer comprising a water-soluble organic compound containing selenium in the +2 oxidation state.

201. (Withdrawn) A stabilized radiopharmaceutical composition of claim 200, wherein the water-soluble compound containing selenium in the +2 oxidation state is selenomethionine or a derivative thereof.

202. (Withdrawn) A stabilized radiopharmaceutical composition of claim 200, wherein the water-soluble compound containing selenium in the +2 oxidation state is selenocysteine or a derivative thereof.

203. (Withdrawn) A stabilized radiopharmaceutical composition comprising a compound of the formula:

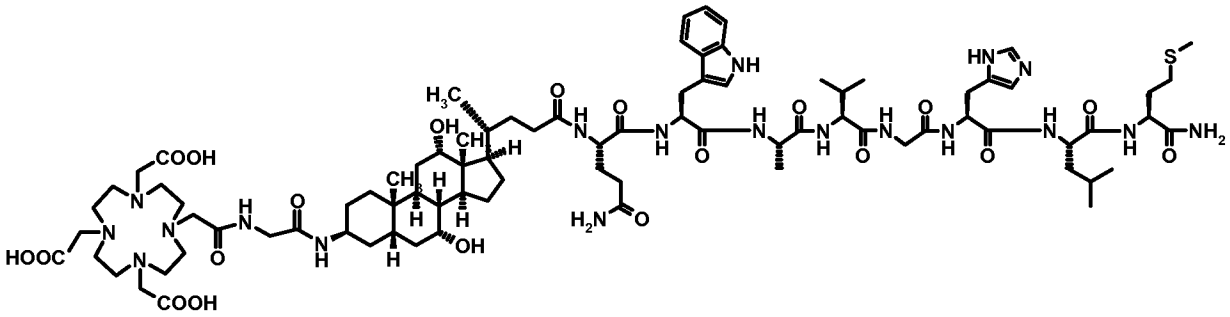


complexed with a radionuclide and a stabilizer comprising a water-soluble organic compound containing selenium in the +2 oxidation state.

204. (Withdrawn) A stabilized radiopharmaceutical composition of claim 203, wherein the water-soluble compound containing selenium in the +2 oxidation state is selenomethionine or a derivative thereof.

205. (Withdrawn) A stabilized radiopharmaceutical composition of claim 203, wherein the water-soluble compound containing selenium in the +2 oxidation state is selenocysteine or a derivative thereof.

206. (Withdrawn) A kit for the preparation of a stabilized radiopharmaceutical composition comprising a compound of the formula:



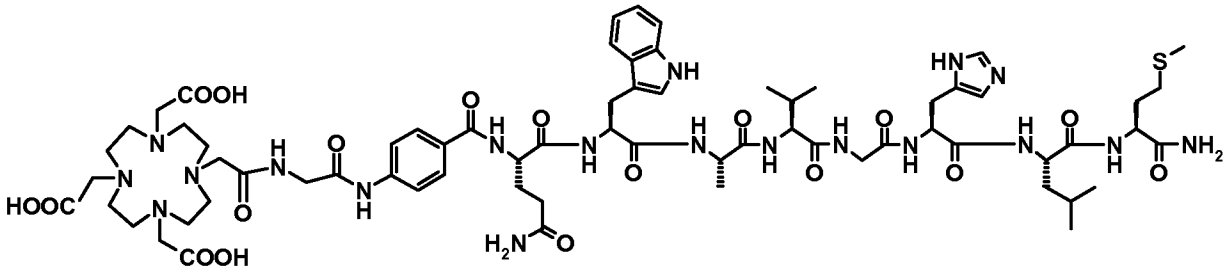
and a water-soluble organic compound containing selenium in the +2 oxidation state.

207. (Withdrawn) A kit of claim 206, wherein the compound containing selenium in the +2 oxidation state is selenomethionine.

208. (Withdrawn) A kit of claim 206, wherein the first reagent further comprises a radionuclide.

209. (Withdrawn) A kit of claim 208, wherein the radionuclide is selected from the group consisting of ^{177}Lu, ^{111}In, ^{90}Y, ^{67}Ga and ^{68}Ga.

210. (Withdrawn) A kit for the preparation of a stabilized radiopharmaceutical composition comprising: a compound of the formula:



;

and a water-soluble organic compound containing selenium in the +2 oxidation state.

211. (Withdrawn) A kit of claim 210, wherein the compound containing selenium in the +2 oxidation state is selenomethionine.

212. (Withdrawn) A kit of claim 210, wherein the first reagent further comprises a radionuclide.

213. (Withdrawn) A kit of claim 212, wherein the radionuclide is selected from the group consisting of ^{177}Lu, ^{111}In, ^{90}Y, ^{67}Ga and ^{68}Ga.

214. (New) A method of claim 193, wherein the radiopharmaceutical composition comprises:

a. a diagnostic or therapeutic radionuclide complexed with a metal chelator;

b. an optional linking group; and

c. a targeting molecule.

215. (New) A method of claim 214, wherein the radiopharmaceutical composition comprises:

a compound of the general formula:

M-N-O-P-Q

wherein

M is a metal chelator complexed with a radionuclide;

N is 0, an alpha amino acid, a non-alpha amino acid, or other linking group;

O is an alpha amino acid, or a non-alpha amino acid;

P is 0, an alpha amino acid, a non-alpha amino acid, or other linking group; and

Q is a targeting peptide;

wherein at least one of N, O or P is a non-alpha amino acid with a cyclic group, complexed with a radionuclide.

216. (New) A method of claim 214, wherein the radiopharmaceutical composition comprises:

a compound of the general formula:

M-N-O-P-Q

wherein

M is a metal chelator complexed with a radionuclide;

N is 0, an alpha amino acid, a substituted bile acid, or other linking group;

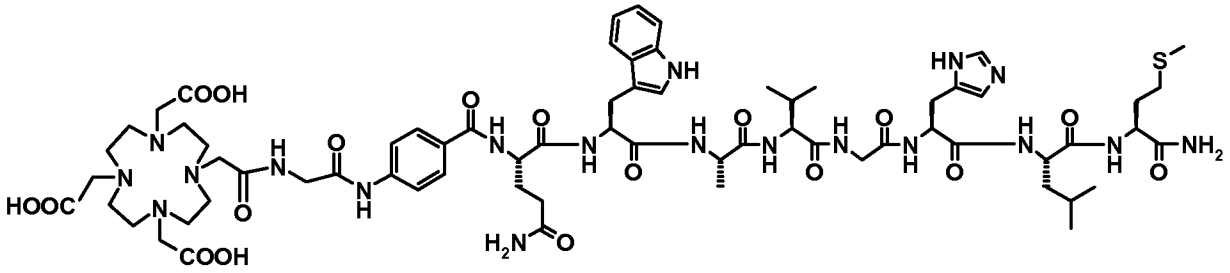
O is an alpha amino acid, or a substituted bile acid;

P is 0, an alpha amino acid, a substituted bile acid, or other linking group; and

Q is a targeting peptide;

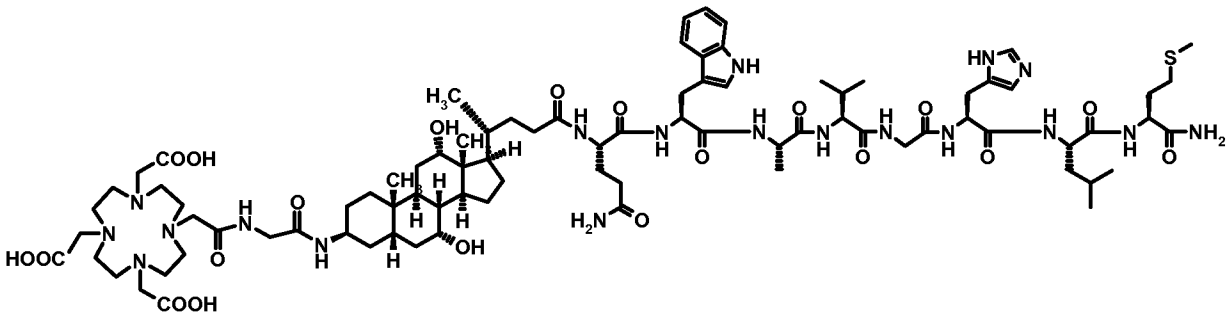
wherein at least one of N, O or P is a substituted bile acid, complexed with a radionuclide.

217. (New) A method of claim 215, wherein the radiopharmaceutcal composition comprises a a compound of the formula:



complexed with a radionuclide.

218. (New) A method of claim 216, wherein the radiopharmaceutical composition comprises a compound of the formula:



complexed with a radionuclide.

219. (New) The method of claim 193, wherein the chelator is selected from the group consisting of DTPA, DOTA, DO3A, HP-DO3A, PA-DOTA, MeO-DOTA, MX-DTPA, EDTA, TETA, EHPG, HBED, NOTA, DOTMA, TETMA, PDTA, TTHA, LICAM, MECAM, CMDOTA, PnAO, oxa-PnAO, N,N-dimethylGly-Ser-Cys; N,N-dimethylGly-Thr-Cys; N,N-diethylGly-Ser-Cys; N,N-dibenzylGly-Ser-Cys, N,N-dimethylGly-Ser-Cys-Gly; N,N-dimethylGly-Thr-Cys-Gly ; N,N-diethylGly-Ser-Cys-Gly; and N,N-dibenzylGly-Ser-Cys-Gly.

220. (New) The method of claim 214, wherein the targeting molecule is a targeting peptide.

221. (New) The method of claim 220, wherein the targeting peptide is selected from the group consisting of LHRH, insulin, oxytocin, somatostatin, NK-1, VIP, Substance P, NPY, endothelin A, endothelin B, bradykinin, interleukin-1, EGF, CCK, galanin, MSH, Lanreotide, Octreotide, Maltose, arginine-vasopressin and analogs and derivatives thereof.

222.

223. (New) The method of claim 221, wherein the targeting peptide is LHRH or an analog thereof.

224. (New) The method of claim 220, wherein the targeting molecule is a GRP receptor targeting molecule or an analog thereof.

225. (New) The method of claim 223, wherein the GRP receptor targeting molecule is an agonist or a peptide which confers agonist activity.

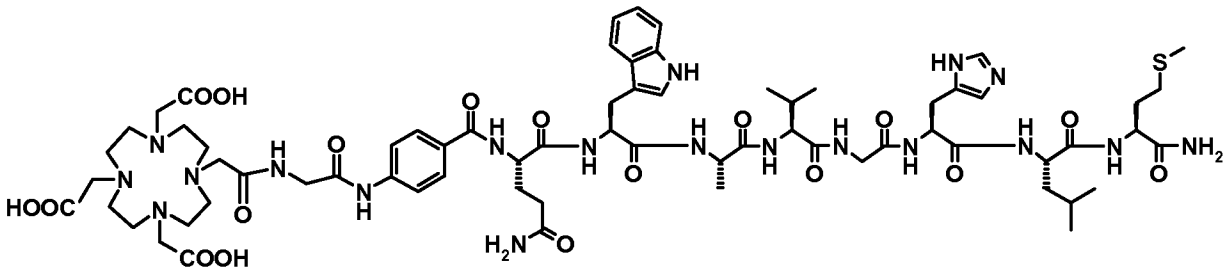
226. (New) The method of claim 224, wherein the GRP receptor targeting molecule is bombesin or an analog thereof.

227. (New) The methjod of claim 193, wherein the radionuclide is selected from the group consisting of ^{99m}Tc, ^{51}Cr, ^{67}Ga, ^{68}Ga, ^{47}Sc, ^{167}Tm, ^{141}Ce, ^{123}I, ^{125}I, ^{131}I, ^{18}F, ^{11}C, ^{15}N, ^{111}In, ^{168}Yb, ^{175}Yb, ^{140}La, ^{90}Y, ^{88}Y, ^{86}Y, ^{153}Sm, ^{166}Ho, ^{165}Dy, ^{166}Dy, ^{62}Cu, ^{64}Cu, ^{67}Cu, ^{97}Ru, ^{103}Ru, ^{186}Re, ^{188}Re, ^{203}Pb, ^{211}Bi, ^{212}Bi, ^{213}Bi, ^{214}Bi, ^{225}Ac, ^{211}At, ^{105}Rh, ^{109}Pd, ^{117m}Sn, ^{149}Pm, ^{161}Tb, ^{177}Lu, ^{198}Au and ^{199}Au and oxides or nitrides thereof.

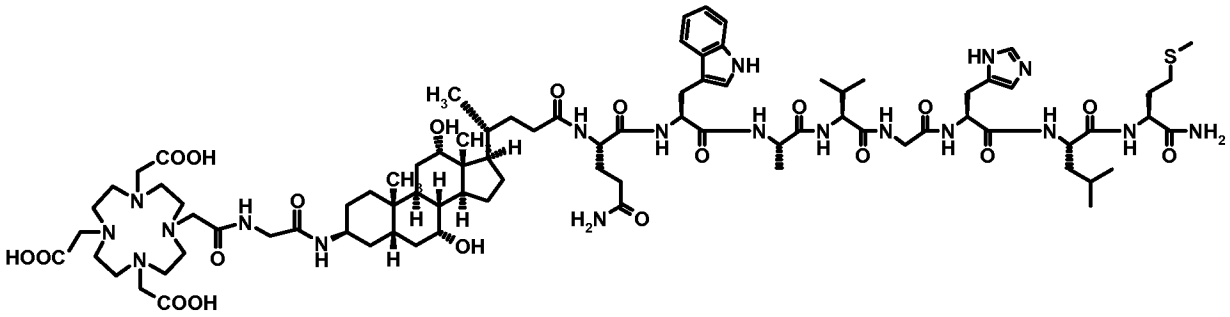
228. (New) The method of claim 193 wherein the stabilizer solution further comprises a water soluble organic compound containing selenium in the +2 oxidation state.

229. (New) The method of claim 227, wherein the water soluble organic compound containing selenium in the +2 oxidation state is slected from the group consisting of selenomethionine, selenocysteine and derivatives thereof.

230. (New) The method of claim 228, wherein the radiopharmaceutcal composition comprises a compound of the formula:



or a compound of the formula:



complexed with a radionuclide.